

Mobilising the Ethiopian knowledge Diasporas: Framing the issues

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The number of highly skilled Africans leaving their country of origin, many with PhDs, has reached disturbing proportions. Meanwhile, Africa spends billions per year to fill the capacity gaps that are created by the exodus of the highly skilled. In Africa, Ethiopia ranked first in terms of rate of loss of human capital.

Many African governments are unable to match salaries or offer incentives to draw the highly skilled to return home in this context. The article focuses on the knowledge Diaspora, and the possibilities that exist to offset the potential impact of brain drain on their country of origin. The paper examines pathways for the mobilisation of the African Intellectual Diasporas, in particular the Ethiopian knowledge Diaspora, by addressing the main factors that played a role in shaping the new direction of the brain drain phenomenon.

[Key words: Africa, Ethiopia, knowledge Diasporas, brain drain, mobilisation]

INTRODUCTION

Brain drain has depleted Africa of key future development prospects. It has crippled the very essence, that of which it was meant to protect. However, many believe that Africa's skilled and highly skilled residing in the Diaspora are the resources necessary to shift the tide. African knowledge Diasporas have the potential to activate further development and economic growth in Africa. The migration of the skilled and the highly skilled, once regarded as the so-called 'brain drain', is now the new hope: the 'brain gain' of developing countries.

In the area of skilled-labour mobility, research leans predominantly towards repatriation of the Diaspora, hence literature tends to concentrate on counter measures such as taxation (financial measures to compensate loss), regulation (restrictions of financial flows) and conservation (control of emigration). Thus, the brain drain discussion was based on the abilities of governments to tap the skills and the knowledge of their intellectual Diaspora, mainly in the sciences and technology, by inducing them to return. However, many African governments are unable to match salaries or offer incentives to draw the highly skilled to return home. Currently, the focus of studies has been to examine and develop governmental policies in order to address the problem of brain drain. While policy decisions are important in addressing the issue, grassroots organising and self-mobilisation of African intellectual Diasporas, in an effort to offset the potential impact of brain drain, is critical to the success of alleviating the brain drain phenomenon. According to Teferra (2000, p.8) the African "... Diaspora is a vital influential community of undercover ambassadors [capable of providing] ... another window to the industrialised world ... another bridge in knowledge transmission and exchange and another catalyst in fostering knowledge creation and utilization."

Given the considerable research on migration and brain drain, it is inevitable for research to start directing attention towards the mobilisation of the intellectual Diasporas. In an attempt to go beyond the loss of human capital approach, this paper would analyse the mobilisation of the

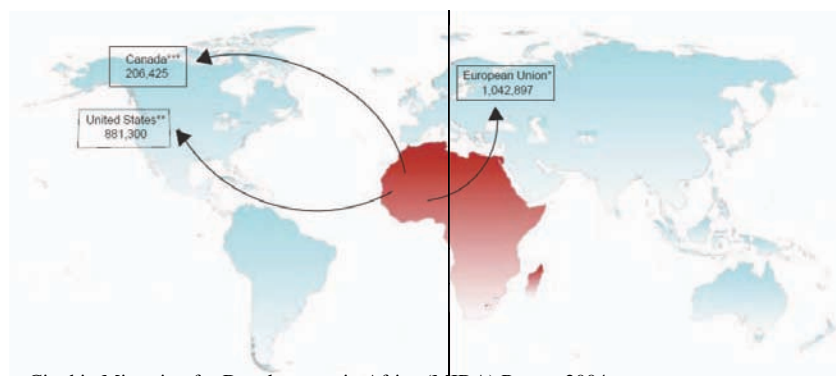
African intellectual Diasporas, in particular the Ethiopian knowledge Diaspora, by addressing the main factors that played a role in shaping the new direction of the brain drain effect.

CONTEXTUALISING THE BRAIN DRAIN

The concept of brain drain has been around since the 1950s and was used to describe British intellectuals and scientists migrating to the United States (Gaillard and Gaillard, 1997). After World War II, about 97,000 highly skilled scholars immigrated to the United States, mainly from Great Britain, Germany and Canada (Teferra, 2000). Nowadays the term ‘brain drain’ is mostly used to refer to the flight of highly skilled professionals from developing countries to developed countries. According to Teferra (2000, p.3), the particular use of the term often implies the “magnitude of the net flow and the perceived impact the movement has caused on the losing countries”.

The migration of the highly skilled has attracted significant interest in the international community. This is mainly due to reports that have related this phenomenon to developmental constraints (Sako 2002). In Africa alone, it is estimated that one-third of the most highly qualified are residing outside their country of origin, mainly in Western Europe and North America (World Bank 2000).

Figure 1: Where are the African Diasporas?



Cited in Migration for Development in Africa (MIDA) Report 2004

* EU-11: Stock of non-national population from Sub-Saharan Africa of 1 January 2000 (without Ireland, Luxembourg and Austria)

** Immigrants from Africa in 2000

*** Stock of foreign-born population from Sub-Saharan Africa in 2001

Sources: Statistics Canada, Census 2001; US 2000; INS Statistical Yearbook 2003

In 1994, Speer stated that nearly 88 per cent of adults who emigrate from Africa to the United States have a high school education or higher, compared with the national average for native-born Americans, which is 77 per cent. An article from the *Economist* in 1996 (pp.27–28) further confirmed what Speer stated two years prior “...three quarters of [African-born and residing in the United States] have some college experience; one in four has an advanced degree”, surpassing the figures for native-born Americans. According to the International Organization for Migration (IOM, 2005), there are currently 300,000 highly qualified Africans in the Diaspora, 30,000 of whom have PhDs. Meanwhile, Africa spends US\$4 billion per year (representing 35% of total official development aid to the continent) to fill the capacity gaps that are created by the exodus of the skilled and the highly skilled (Sako, 2002).

The brain drain phenomenon has hurt some countries more than others. In Africa, Ethiopia ranks first in terms of rate of loss of human capital, followed by Nigeria and Ghana. Over the past 10–15 years, about 50 per cent of Ethiopians who went abroad for training did not return after completing their studies (Teferra, 2000). From 1980–1991 Sethi (2000) estimated that a mere 5,777 of the 22,700 students who studied abroad (39%) returned to Ethiopia. During Teferra's (1997) tenure in Addis Ababa University, 20 faculty members from the Physics department went abroad for training and never returned. He further states that this happened in all departments and as a result the employment of new graduates has become the norm. Mr. Kibre Moges of the Ethiopian Economic Association reiterates that "today if you visit colleges and universities in this country [Ethiopia] you will not find any lecturers who have been there for more than seven or eight years" (IRIN, 2002).

This loss of highly skilled staff in the higher education institutes inhibits all aspects of development in Ethiopia, especially the medical sector. Citing a report by the Ministry of Health in Ethiopia, Shinn (2002) reported that between 1988 and 2001 Ethiopia trained 2,491 public health specialists; however one-third have left Ethiopia, leaving only 1,366 physicians. He later concluded that there is only one physician for every 47,000 people.

Brain drain has not always been a problem in Ethiopia. According to Shinn (2002) the political persecution during the 1974 Revolution (Red Terror era) was a major turning point in the emigration of highly skilled Ethiopians. Prior to the Red Terror era, almost all Ethiopians who attended university stayed in Ethiopia and worked. The vast majority of Ethiopians who went abroad for training were eager to return home. Many of them returned before graduation and had their diplomas mailed home (Getahun, 2002). Higher institutions in Ethiopia have been traditionally responsible for the development of new ideas, innovation, and creating responsible citizens. Now, however, universities must rely on recent graduates to fill professorial vacancies and are unable to adequately provide the basic functions of a higher institution or to properly train students.

Strategies have been implemented by the labour-sending countries to offset the brain drain. These strategies have been divided by Meyer *et al.* (1997) into two groups: brain drain as a loss of human capital and the 'brain gain strategies'. Historically, the human capital approach to brain drain held that when a government invests in an individual's educational qualifications, abilities, skills, and competencies it is entitled to expect a future return on its investment (Brown, 2000). Governments, seeing brain drain as a loss of human capital, designed restrictive policies (making it difficult for people to migrate), incentive policies (countering the romantic effect of migration by offering incentives to the highly skilled to stay in the home country), and compensatory policies suggested by Bhagwati in 1977 where migrants are taxed to counterbalance the loss of human capital. For example, the Ethiopian government has attempted to mitigate the loss of academics by requiring university instructors and others who leave for further education to sign a contract stipulating that they will return to work in Ethiopia for 12 or 15 years (for those going for doctorates) or pay Birr 140,000 (approximately US\$17,000) to compensate the government (Getahun, 2002).

This is an interesting approach, however, it is unenforceable due to the inability to keep track of those that leave, and lack of consensus between the Ethiopian government and the labour-receiving governments. For example, in 2001 the University of Asmara in Eritrea was planning to send 300 graduate students to South Africa for further education. The university asked each student for \$15,000 as insurance for their return and the students protested they could not afford it. In the end, the university backed down and instead decided to withhold students' certificates, pending their return (Shinn, 2002).

A study by the International Organization for Migration (IOM, 2002) reported that one-third of Ethiopians who were sent abroad for further education have not returned. Restrictive policies are often ineffective because it is costly to implement systems that track migrants and also because they alienate expatriates and build resentment that stifles willingness to contribute to the development of their home country.

BRAIN DRAIN: PERSPECTIVES

There are many reasons why highly skilled professionals choose to migrate. Oyowe (1996, pp.59–60) points out

“when a highly qualified professional chooses to leave his country for another, he does so for one or several legitimate political or economic reasons; peace and security for himself and his family; job satisfaction; better conditions; higher standards of living...”

The reasons stated above are classified by Odunsi (1996) as ‘push and pull factors’. The ‘push factor’ is the conditions that drive the highly skilled from their country of origin. The ‘pull factor’ is the attractive conditions offered by the developed countries, including current migration schemes that deliberately target the highly skilled (Canada, United States, Australia and Germany).

However, Getahun (2006) argues that, of the push factors, it is not poverty, population pressure, drought and famine that triggered migration of Ethiopians because Ethiopia was already a poor country prior to the Ethiopian Revolution. He believes Ethiopians failed to return home because of the political upheaval, persecution and uncertainty in Ethiopia.

It is also important, however, to emphasise the ‘pull factor’ here because developed countries do contribute a great deal to the exodus of highly skilled Africans from Africa. For instance, the American government has several visa programs that target the highly skilled, such as the Immigration and Nationality Act, which targets highly-skilled individuals in the sciences, arts, education, business and athletics. Similar criteria are used for the temporary workers visa and, the most popular one in Ethiopia, the Diversity Visa (DV) lottery (US Department of State, 2007). The DV, introduced by the United States in the 1990s, is one of the many avenues that are open for Ethiopians to immigrate to the United States. Although the DV is a lottery that is intended to attract diverse groups of people, it is highly selective. Aside from other qualifications, applicants must have at least a high school diploma, which, in the context of Ethiopian education, means the elite and the highly educated Ethiopians who have already been tracked to attend university. Numbers of Ethiopians have taken advantage of the DV: in 2003, as many as 5,562 Ethiopians were selected to apply for immigration, the third highest number worldwide after Ghana and Nigeria (Shinn 2002).

One can analyse the brain drain phenomenon from various perspectives. One group views brain drain as a devastating effect that damages/hurts developing countries due to the loss of their elite minds. This loss of human capital is damaging to the home country because its substantial investment in human resources will not be compensated (Brown, 2000; Sako, 2002). Highly skilled emigration disturbs the living standards of those left behind, and also the overall growth of the sending country. Those who are left behind lose the prospects for training and the benefit of exchanging ideas. The country’s health and education system may be damaged; opportunities to attain economic growth may be reduced. This means that if the highly skilled had stayed in their country they could have helped to improve education, governance and the overall quality of life of the country. The negative impact of brain drain has been linked to the lack of development. According to the IOM (2001, p.6) “large cross-border movements can be a response to the ever-increasing gaps in living standards and income between countries; and this often means a loss of human capital where it is most needed for development.”

By contrast, Cervantes and Guellec (2002), Nyikuli (1999) and Patel (2002) view brain drain as a benefit to the migrants as well as their home countries because of the recovered remittances (money sent to family members by the expatriates). According to Hunger (2002) the foundation of the 'brain gain' hypothesis is based on two basic ideas: (1) those highly skilled who returned to their home countries through return migration and/or transnational networks are able to contribute to the developmental process; (2) sufficient incentive as a form of motivation must be available to those who wish to repatriate, even if they have already been living abroad for a long time and have not yet built up any productive contact to their country of origin.

A third group views brain drain as a non-beneficial process, where neither the host nor the home country benefits from the process. This is because workers considered skilled in their home countries are often regarded as unskilled in a host country, at least initially. Therefore, the country of origin has lost a skilled worker and the host country gained a worker with training that is irrelevant or under-utilised (Dei and Asgharzadeh, 2002). Due to the variety of perspectives on brain drain, researchers must be conscious of the lens through which they conduct their study.

It is estimated that about 200 million people migrate around the world yearly (Solimano, 2003). "Latin America and Africa are the two regions of the developing world that have the highest shares of skilled and highly skilled migrants residing in the developed countries..." (Page and Plaza, 2006, p.257). In Africa alone, approximately 23,000 qualified academic professionals emigrate annually (Pang, Lansang and Haines, 2002), leaving the African continent depleted of intellectual resources. This impact on Africa's development is further acknowledged by Miyagiwa (1991), while Haque and Kim (1995) point out that a person's knowledge not only affects the availability of skills, but also the productivity of the others in that country. Thus, the emigration of the skilled eliminates that benefit to the country, although at the same time providing opportunities for those somewhat less qualified. Fuita (1999, cited in Page and Plaza, 2006) went a step further, stating that skilled labour is an important factor in attracting foreign investments, while a lack of it would reduce the amount of foreign investment in the country.

The United Nations Commission for Trade and Development (UNCTAD) estimated that each migrating African professional represents a loss of US\$184,000 to Africa (Pang, Lansang and Haines, 2002). The magnitude of the migration of the highly skilled is one of Africa's major development constraints (Sako, 2002; Dei and Asgharzadeh, 2002). Dei and Asgharzadeh (2002) believe that what Africa has 'sown', other countries 'harvest'. In other words, host countries reap the skills of the African continent. The IOM report in 2001 (p.18) stresses this point by pointing out that "Africa bears the cost of raising and educating its professionals in their unproductive years before the latter seek greener pastures abroad." Concerned about the negative impact of brain drain on the African continent, African governments and the international community designed strategies and policies to counteract this loss, by turning brain drain into brain gain. Mountford (1997), Stark *et al.* (1998), Vidal (1998) and Beine *et al.* (2001) argue that migration could promote growth in labour-sending countries. This triggered research to focus on remittance inflows. The United Nations International Fund for Agricultural Development (IFAD) in 2007 estimated the annual remittances in 2006 to be US\$300 billion worldwide, which has been a tremendous increase from US\$15 billion in 1980. In Ethiopia, remittances stand at US\$591 million in 2006, representing nearly 4.4 per cent of GDP.

Several studies have correlated remittances with increased schooling, thus building a relationship between remittances and increased schooling for children. A 2006 IOM report claimed that remittances raised children's education level in several countries including Jordan, Thailand and the Philippines. Wadda (2000) argues that "households with migrants are more likely to invest in education and less likely to send their children to work" (IOM 2006, p.51). However, one cannot

help wonder whether remittances are the main factor for the rise of schooling in households with migrants, or whether households with families abroad are more likely to use extra money on education.

Although research on the impact of remittances on development is still being carried out, it is likely that the migration of the highly skilled from LDCs to developed countries cannot be fully compensated by remittances (Rapoport and Docquier, 2005). It has been suggested by Ratha (2003) that the more educated a migrant is, the less likely that they will remit. This could possibly be due to the fact that highly skilled and educated migrants are more likely to assimilate into the host country. Suro (2003), in his study, showed that only 19 per cent of migrant workers that earned more than \$50,000 a year sent remittances. Seguin *et al.* (2006, p.81) went a step further, concluding, “the potential of highly skilled Diaspora is not being harnessed through remittances”. If that is the case then the best way to harness the skill of the knowledge Diasporas is to find other means for them to be effective in the developmental process of their country. This suggests that the mobilisation of the African intellectual Diaspora community is the key to the development of their country of origin.

MOBILISING THE ETHIOPIAN KNOWLEDGE DIASPORAS

Stark *et al.* (1997) reported that knowledge brought back by returning migrants could contribute to technological advances and this in turn would be a potential source of growth. In 2003, Dos Santos and Postel-Vinay suggested that policy change may be able to contribute to a rise in contributions by migrants and thus this flow of knowledge could increase the ‘brain bank’ of labour-sending countries. Consequently, the mobilisation of the African intellectual Diaspora community is key to the development of their country of origin.

Saxenian (2006) later painted an optimistic picture of those becoming part of the brain circulation, who she refers to as the ‘New Argonauts’. She argues that those joining the brain drain circulation were well equipped with education from top universities, Silicon Valley experience and network relationships and thus were able to operate in several countries at the same time. This in turn allowed them to identify new markets, locate foreign partners and manage cross-border business operations, and in the process, influence development and economic growth:

The ‘New Argonauts’ are undermining the old pattern of one-way flows of capital and technology from the core to the periphery into far more complex and decentralized two-way flows of skill, capital and technology. [And] they have created innovative collaborations in distant and specialized regional economies while avoiding head-on competition with industry leaders. (Saxenian, 2006, p.6)

The ‘brain gain strategies’ approach, divided into the return option and the Diaspora option (Brown, 2000), was used as a mechanism to attract expatriates back home. The return home option was established and implemented from the 1970s to the 1990s by many developing countries; however, only India, South Korea, Hong Kong and Taiwan were effective at implementing it. South Korea, Hong Kong and Taiwan were successful notably due to their growing economy. More recently, the relatively poor country of India, was successful at attracting its best and brightest diasporas back, mainly due to its ICT and biotechnology boom. Its “private sectors offer opportunities for skills of expatriates to be utilised, in addition to government’s ability to coordinate the policies and programs of multiple government ministries including that of the Ministry of Foreign Affairs, the Ministry of Overseas Indians, the Ministry of Science and Technology, and the Ministry of Education” (Seguin *et al.* 2006, p.85). One of the difficulties with the return option was the fact that many developing countries, including most of Africa, were unable to match salaries or create sufficient incentives to draw expatriates back home.

BACKGROUND

Ethiopia, known by many as Abyssinia, is located in Eastern Africa (what is known as the Horn of Africa). It has one of the oldest civilisations in the world and is unique among African countries. It is the only country in Africa, with the exception of the brief (1936–1941) occupation by the Italians during World War II, which maintained its freedom from colonial rule. It is credited with being the origin of mankind by the discovery of human bones — ‘Lucy’ (known by Ethiopians as Dinkenes, meaning *thou art wonderful*) — and today forms the second most populous country in Sub-Saharan Africa, with a population of 78.2 million. Of these, 84 per cent reside in rural areas where agriculture is the predominant economic source and where infrastructure and social services are not developed (Ethiopia Population Image Report, 2006).

Ethiopia has experienced various conflicts, ranging from the rise of Islam in the 7th century to the resistance to the Portuguese control over the Indian Ocean. However, the overthrow of the last emperor, Haile Selassie, in 1974 by the military junta (the Derg) was the beginning of the suffering. This era, known as the ‘Red Terror’, resulted in the jailing, torture and death of over 609,000 people, of which 500,000 were civilians (Webb and von Braun, 1994, p.36).

By 1982 up to 4.5 million people had been displaced as a result of occasional drought, past civil strife and border fighting. It also sent thousands of young, educated Ethiopians abroad seeking asylum. During the Red Terror of 1977–1978, thousands of students and professionals were killed because “human rights violations characterized the government’s policy toward dissidents” (Library of Congress, 2005); this resulted in a major exodus of the young and educated. Today, it is estimated that there are one million Ethiopians living abroad (Nega *et al.*, 2004). Of the estimated one million Ethiopians who reside outside the country, most are known to be concentrated in North America, the Middle East and Western Europe (Addis Tribune, 2004).

Ethiopia, a country that was once considered the oldest and the greatest civilisation in Africa, has been crippled and reduced to drought, famine and poverty. The participation rate in Ethiopia’s education sector is considered by many as one of the lowest in the world. The World Bank (2001) reported enrolment ratios of 30 per cent at primary, 13 per cent at secondary and less than one per cent at tertiary level.

There has been dramatic growth throughout the education system, especially in the last five years, in attempting to meet the 2015 Education For All (EFA) goal and also as part of the Ethiopian Millennium goals (Ethiopia uses the Coptic Orthodox Church calendar, which means 2000 began on Wednesday September 12th, 2007). In 2003/04, the education system had grown to about 9.5 million students in primary school and more than 700,000 in secondary schools (Dufera 2005). The 2005/06 Gross Enrolment Ratio (GER) at primary level (Grades 1–8) has reached 85.8 per cent compared to 30 per cent in 2000/01. With 43 per cent of the population under the age of 15, the Ethiopian government tries its best to make sure primary schooling is spread across the rural areas. However, access to basic education in Ethiopia remains a challenge for the government. Although the government has put a considerable amount of effort into providing basic education to all school-age children, 4.5 million of them are still out of school (Dufera, 2005), making the 2015 EFA goal much more difficult to attain.

ETHIOPIAN MIGRATION LINKAGES

The majority of Ethiopians residing abroad are found in the United States and Israel. However, Ethiopians are also found in Sweden, Germany, France, Greece, Canada, Australia, Belgium, Switzerland and New Zealand. Kasahun Ayele, the Ethiopian Ambassador to the United States, told British Broadcasting Commission (BBC) reporters in 2002 that there were over 500,000

Ethiopians living in the United States willing to contribute to the development of the country (BBC Monitoring Africa, 2002). In 2005, Israel's Central Bureau of Statistics estimated the Ethiopian-origin population to be 105,500.

According to Abye (2004 cited in Terrazas, 2007), Ethiopian migration to the West happened in four waves. The first wave of elites migrated before 1974. Abye (2004) finds that of this wave, 72 per cent of Ethiopians who migrated to France were from the ruling class. The second, much larger, wave of privileged migration was 1974–1982. The third wave, 1982–1991, comprised mainly Ethiopians who left Ethiopia to reunite in the West with families who had to leave the country for political reasons, or Ethiopian tourists who overstayed their visas. The fourth wave of migrating Ethiopians started in 1991 with highly skilled Ethiopians leaving their country in quest of better opportunities. The American Community Survey conducted by the United States Census Bureau in 2005 estimated 103,000 Ethiopian-born to be living in the United States and that 62 per cent of Ethiopians that were living there in 2000 had entered from 1990 to 2000 (see figure 2) (Terrazas, 2007).

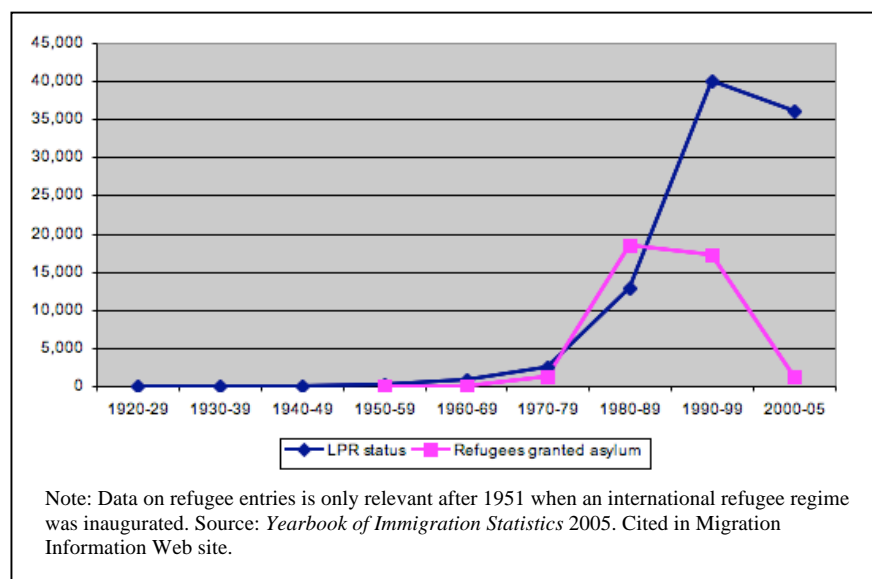


Figure 2. Flow of Ethiopians to the United States by Decade of Admission, 1920 to 2005

The United States Census in 2000 also revealed that “approximately 29.5 per cent of US residents born in Ethiopia age 25 or older had at least a bachelors degree, and 84.1 per cent had a high school education or higher” (Terrazas, 2007, p.3). On the other hand, in Addis Ababa University, the leading university in Ethiopia, 70 per cent of the faculty (out of 850 pedagogues) did not have graduate-level training (Getahun, 2002).

Several capacity-building strategies, such as TOKTEN (Transfer of Knowledge through Expatriate Nationals), were put in place by the United Nations and the Migration for Development in Africa (MIDA) in an effort to physically mobilise African intellectual Diasporas back to Africa and to transfer their knowledge, even if they did not return. MIDA seeks to contribute to the socio-economic development through the mobilisation of skills, financial and other resources of the African Diaspora, to reduce poverty and strengthen the technical and institutional capacities of the public and the private sectors. The Return and Reintegration of Qualified African Nationals (RQAN) program, one of MIDA's programs, was designed by IOM in 1995 and was jointly implemented with participating countries. Although RQAN ran from 1995 to 1999, only 66 Ethiopian professionals were assisted by the organisation to return to Ethiopia (Kebbede and

Mehari, 2004). Thus, efforts to enhance contributions of African intellectual Diasporas that only focused on resettlement have not produced desired results.

Today the mobilisation of knowledge Diasporas has shifted to virtual participation, which is referred to by Meyer and Brown (1999) as 'distant cooperative work'. Virtual brain mobility is defined by Teferra (2000) as skilled immigrant participation in nation building without physically relocating them to their native countries where their expertise is sought. Although efforts to regulate the impact of skilled personnel mobility has, in the past, relied on physical movement, the potential to exploit virtual mobility of the African knowledge Diasporas has been limited (Teferra, 2000). In 1994 only South Africa and Egypt had full access to the Internet; however, today there is hardly any country in Africa without some form of connectivity to the Internet (Teferra, 2000). If networks are vehicles for mobilising the Ethiopian Diaspora, technology such as the Internet is the fuel that maintains that connection. Thus, these developments in technology have the ability to provide another avenue to maximise the brain mobility option.

TRANSNATIONAL NETWORKS

Network approaches are the foundation of the Diaspora option. These networks of highly skilled expatriates, sometimes referred to as expatriate knowledge networks, transnational migration circuits, transnational social fields, transnational communities or bi-national societies, are defined by Brown (2000, p.5) as "a regular set of contacts or similar connections among individual actors or groups." Brown (2000) has identified the purpose of the networks as the following: to mobilise Diasporas to contribute their skills and expertise to the economic and social development of the country of origin through setting up linkages and connections between network members and between them and their counterparts at home. Meyer and Brown (1999) have identified 41 formal knowledge networks, but only six of them are linked to African countries.

One of the main characteristics of these networks is their ability to provide highly skilled expatriates a way to set up links with their country of origin. These links provide opportunities for them to transmit their skills and expertise to their country of origin without necessarily returning home. With this approach the home country can benefit from the transfer of knowledge and expertise of the expatriate, the host country can continue to benefit from the knowledge and expertise that it sometimes helped create, and the members get to contribute in ways that were not possible before. Boyd (1989, p.641) sums up the network initiatives by stating:

Networks connect migrants across time and space. Once begun, migration flows often become self-sustaining, reflecting the establishment of networks of information, assistance and obligations that develop between migrants in the host society and friends and relatives in the sending areas. These networks link populations in origin and receiving countries and ensure that movements are not necessarily limited in time, unidirectional or permanent.

These networks served as a vehicle for mobilising the Diaspora in giving back while still in their host countries. The networks are non-profit, non-governmental and started out spontaneously and sporadically around the world. However, it has set forth a structure that has potential for developing countries on which to capitalise (Brown, 2000). As stated by Vertovec (2002, p.12) "the resultant long-distance networks among local and foreign-based professionals can provide highly important channels throughout which run flows of capital, skill, managerial know-how and information." The same point is reiterated by Lowell and Findlay (2001) who argue that the re-supply of highly educated populations to the sending country does not have to be achieved through permanent return or the physical presence of expatriates.

It is important to acknowledge that there is no uniform solution in reversing brain flow and thus various strategies and approaches should be used to address the issue. Additionally, the mobility of skilled labour is inevitable and attempting to control it with restrictive policies is nonsensical.

CONCLUSIONS

Brain drain is a migration trend that has continued to impede the development growth of the African continent. Some may choose to dismiss this phenomenon and write it off as the natural consequence of a globalised market economy. However, that in itself does not nullify the devastating effect that brain drain has been having on African countries. In order to move forward in turning brain drain into brain gain it is important to acknowledge this fact and thus mitigate the negative impact. In doing so, the African intellectual Diasporas abroad could be the new agents and the pioneers in transforming brain drain into brain gain, and the knowledge networks would be the gateway through which information, new technology and innovative ideas come to fruition. As Saxenian (2006, p.9) points out when the intellectual diasporas abroad invest in their home countries “...they transfer first-hand knowledge” and “...they bring the worldviews and identities that grow out of their shared professional and educational experiences.” With that in mind, African governments need to find new ways in which to invest and capitalise on one of their most essential assets: their intellectual Diasporas overseas.

REFERENCES

- Abye, T. (2004). *Parcours D’Ethiopiens en France et Aux Etats-Unis: De Nouvelles Formes de Migrations. L’harmattan-Etudes Africaines.*
- Addis Tribune. (2004). Mobilizing Diaspora Resources for Development in Ethiopia [Electronic Version]. Retrieved May 14th, 2007 from <http://addistribune.com/Archives/2004/12/17-12-04/International.html>
- BBC. (2002). Ethiopia: U.S., the World Bank and the IMF Pledge Financial Support [Electronic Version]. *Monitoring Africa Political*. Retrieved August 18th 2007.
- Beine, M., Docquier, F. & Rapoport, H. (2001). Brain Drain and Economic Growth: Theory and Evidence. *Journal of Development Economics*, 64, pp.275–289.
- Bhagwati, J.N. (1977). *The reverse transfer of technology (brain drain): International resource flow accounting, compensation, taxation and related policy proposals*. Paper presented at the United Nations Conference on Trade and Development.
- Boyd, M. (1989). Family and Personal Networks in International Migration: Recent Developments and New Agendas. *International Migration Review*, 23(3), 638–670.
- Brown, M. (2000) Using the Intellectual Diaspora to Reverse the Brain Drain: Some Useful Examples. Paper presented at the *Economic Commission for Africa*, University of Cape Town, South Africa. 22–24 February.
- Bureau of African Affairs. (2007). Background on Ethiopia. Retrieved July 4th, 2007, from <http://www.state.gov/r/pa/ei/bgn/2859.htm>.
- Cervantes, M. & Guellec, D.D. (2002). The Brain Drain: Old Myths, New Realities [Electronic Version]. *OECD Observer*, 40–42 from <http://64.233.179.104/scholar?hl=en&lr=&q=cache:sKmtWLYf4HAJ:www.mm.dk/filer/BrainFINAL05Feb1.pdf+old+myths+new+realities>.
- CIA. (2007, May 2007). World Factbook—Ethiopia. Retrieved July 4th, 2007, from <http://www.cia.gov/library/publications/the-world-factbook/geos/et.html>.

- Dei, G.J.S. & Asgharzadeh, A. (2002). What is to be Done? A Look at Some Causes and Consequences of the African Brain Drain. *African Issues*, 30(1), 31–36.
- Diaspora-Forum. (2006). Reversing the Trend of Brain Drain: The Case of the Ethiopian Diasporas. Retrieved July 5th 2007, from http://www.mfa.gov.et/Press_Section/Newsletter11/DiasporaForum11.html.
- Docquier, F. & Rapoport, H. (2004) Skilled migration: the perspective of developing countries. *World Bank Policy Research Working Paper no. 3382*. Washington: World Bank.
- Dos Santos, M.D. & Postel-Vinay, F. (2003). Migration as a Source of Growth: The Perspective of a Developing Country. *Journal of Population Economics*, 16(1), 161–175.
- Dufera, D. (2005). Prospects, Challenges and Policy Options of Ethiopian Educational System Towards the Achievement of EFA Goals. Retrieved August 8th 2007, from <http://home.hiroshima-u.ac.Jp/cice/paper67.pdf>.
- Economist. (1996). African Immigrants in the United States are the Nation's Most Highly Educated Group. *The Economist*, 339(7965), 27–28.
- Ethiopia Population Images. (2006). Addis Ababa: Population Department Ministry of Finance and Economic Development.
- Ethiopian Diaspora Website. (2007). Mobilizing Ethiopians Living Abroad for the Development of Ethiopia. Retrieved May 3rd 2007, from <http://www.ethiopiandiaspora.org/introduction.asp>.
- Ethiopian Embassy. (2007). Country Profile. Retrieved July 5th 2007, from <http://www.ethiopianembassy.org/index.shtml>.
- Gaillard, J. & Gaillard, A.M. (1997). Introduction: The International Mobility of Brains: Exodus or Circulation? *Science, Technology and Society*, 2(2), 195–228.
- Getahun, S.A. (2002). Brain Drain and its Effect on Ethiopia's Institutions of Higher Learning 1970s–1990s. *African Issues*, 30(1), 52–56.
- Getahun, S.A. (2006). Brain Drain and its Impact on Ethiopia's Higher Learning Institutions: Medical Establishments and the Military Academies between 1970 and 2000. *Perspectives on Global Development and Technology*, 5(3), 257–275.
- Haque, N.U. & Kim, S.-J. (1995). Human Capital Flight: Impact of Migration on Income and Growth. *I.M.F Staff Papers*, 42(3), 377–607.
- Hunger, U. (2002). The “Brain Gain” Hypothesis: Third-World Elites in Industrialized Countries and Socioeconomic Development in their Home Country. Working Paper No. 47, *The Center for Comparative Immigration Studies*, UCSD.
- IFAD (2007). *Sending Money Home: Worldwide Remittance Flows to Developing Countries*. Rome, Italy: The United Nation’s International Fund for Agricultural Development (IFAD).
- IOM. (2001). The Link Between Migration and Development in the Least Developed Countries. Retrieved July 30th 2007, from http://www.old.iom.int/documents/publication/en/ldc_brochure3.pdf.
- IOM. (2002). Migration for Development in Africa (MIDA).
- IOM. (2005). World Migration 2005: Costs and Benefits of International Migration.
- IOM. (2006). *Migrants' Remittances and Development: Myths, Rhetoric and Realities*. Geneva, Switzerland: International Organization for Migration.

- IRIN. (2002). AFRICA: Brain drain reportedly costing \$4 billion a year. *Integrated Regional Information Networks*, from <http://www.irinnews.org/Report.aspx?ReportId=31711>.
- Kebbede, A. & Mehari, T. (2004). *Semantics Aside: The Role of the African Diaspora in Africa's Capacity Building*. Ottawa, Canada: The Association for Higher Education and Development (AHEAD).
- Library of Congress. (2005). Country Profile: Ethiopia. Retrieved July 4th 2007, from <http://memory.loc.gov/frd/cs/ettoc.html>.
- Lowell, L.B. & Findlay, A.M. (2001). *Migration of Highly Skilled Persons from Developing Countries: Impact and Policy Responses*. Geneva: International Migration Organization.
- McDonald, D.A. & Crush, J. (Eds.). (2002). *Destination Unknown: Perspectives on the Brain Drain in Southern Africa*. Pretoria: Africa Institute of South Africa; Southern African Migration Project.
- Mead, M. (1964). The Institute for Intercultural Studies Website. Retrieved August 7th 2007, from <http://www.interculturalstudies.org/Mead/2001centennial.html>.
- Meyer, J.B., Charum, J., Bernal, D., Gaillard, J., Granés, J., Leon, J., *et al.* (1997). Turning Brain Drain into Brain Gain: The Colombian Experience of the Diaspora Option. *Science, Technology and Society*, 2(2), 285–315.
- Meyer, J.B. & Brown, M. (1999). *Scientific Diasporas: A New Approach to the Brain Drain*. UNESCO-MOST.
- MIDA. (2004). *Mobilizing the African Diasporas for the Development of Africa*: International Organization for Migration (IOM).
- Miyagiwa, K. (1991). Scale Economies in Education and the Brain Drain Problem. *International Economic Review*, 32, 743–759.
- Mountford, A. (1997). Can a Brain Drain be Good for Growth in the Source Economy? *Journal of Development Economics*, 53, 287–303.
- Nega, B., Taddese, K., Nuru, S. & Mamma, Z. (2004). *Mobilization and Utilization of Diaspora Resources for Development in Ethiopia*. Addis Ababa, Ethiopia: International Organization for Migration (IOM).
- Nyikuli, P.K. (1999). Unlocking Africa's Potential: Some Factors Affecting Economic Development and Investment in Sub-Saharan Africa. *Law and Policy in International Business*, 4, 623–636.
- Odunsi, B.A. (1996). An Analysis of Brain-Drain and Its Impact on Manpower Development in Nigeria. *Journal of Third World Studies*, 13, 193–214.
- Oyowe, A. (1996). Brain Drain: Colossal Loss of Investment for Developing Countries. *The Courier ACPEU*, 159, 59–60.
- Page, J. & Plaza, S. (2006). Migration Remittances and Development: A Review of Global Evidence 1. *Journal of African Economies*, 15, 245–336.
- Pang, T., Lansang, M.A. & Haines, A. (2002). Brain Drain and Health Professionals: A Global Problem Needs Global Solutions. *British Medical Journal*, 324, 499–500.
- Patel, D. (2002). The Round-Trip Brain Drain. *HR Magazine*, 47(7), 1047–3149.
- Rapoport, H. & Docquier, F. (2005). *The Economics of Migrants' Remittances*. Bonn, Germany: Institute for the Study of Labor (IZA).

- Ratha, D. (2003). Global Development Finance: Striving for Stability in Development Finance. In Worker's Remittances: An important and Stable Source of External Development Finance: World Bank.
- Sako, S. (2002). Brain Drain and Africa's Development: A Reflection. *African Issues*, 30(1), 25–30.
- Saxenian, A. (2006). *The New Argonauts: Regional Advantage in a Global Economy*. Cambridge: Harvard University Press.
- Seguin, B., State, L., Singer, P.A. & Daar, A.S. (2006). Scientific Diasporas as an option for Brain Drain: Re-circulating Knowledge for Development. *International Journal of Biotechnology*, 8(1/2), 78–90.
- Sethi, M. (2000). Return and Reintegration of Qualified African Nationals. Paper presented at the Regional Conference on Brain Drain and Capacity Building in Africa.
- Shinn, D.H. (2002). Reversing the Brain Drain in Ethiopia. Paper presented at the Ethiopian North American Health Professionals Association.
- Solimano, A. (2003). Workers Remittances to the Andean Region: Mechanisms, Costs and Development Impact. Paper presented at the Conference sober Remises y Desarrollo del MIF-BID, Mayo.
- Speer, T. (1994). The Newest African Americans aren't Black. *American Demographics*, 16(1), 9–10.
- Stark, O., Helmenstein, C. & Prskawetz, A. (1997). A Brain Gain with a Brain Drain. *Economics Letters*, 55, 227–234.
- Stark, O., Helmenstein, C. & Prskawetz, A. (1998). Human Capital Depletion, Human Capital Formation, and Migration: a Blessing or a Curse? *Economics Letters*, 60, 363–367.
- Suro, R. (2003). *Remittance Senders and Receivers: Tracking the Transnational Channels*. Washington D.C.: Multilateral Investment Fund/Pew Hispanic Center.
- Teferra, D. (1997). Brain Drain of African Scholars and the Role of Studying in the United States [Electronic Version]. *International Higher Education*. Retrieved March 21st 2007 from http://www.bc.edu/bc_org/avp/soe/cihe/newsletter/News07/text2.html.
- Teferra, D. (2000). Revisiting the Doctrine of Human Capital Mobility in the Information Age. Paper presented at the Regional Conference on Brain Drain and Capacity Building in Africa. from <http://www.iom.int/africandiaspora/pdf/TEFERRA.pdf>.
- Terrazas, A.M. (2007). Beyond Regional Circularity: The Emergence of an Ethiopian Diaspora [Electronic Version]. Retrieved August 24th 2007 from <http://www.migrationinformation.org/Profiles/display.cfm?id=604>.
- United States Department of State. (2007). Diversity Visa Program. Retrieved July 3rd 2007, from http://travel.state.gov/visa/immigrants/types/types_1318.html.
- Vertovec, S. (2002). Transnational Networks and Skilled Labour Migration. Paper presented at the Ladenburger Diskurs.
- Vidal, J.P. (1998). The Effect of Emigration on Human Capital Formation. *Journal of Population Economics*, 11, 589–600.

- Wadda, R. (2000). Brain Drain and Capacity Building in Africa: The Gambian Experience. Paper presented at the Regional Conference on Brain Drain and Capacity Building in Africa. Retrieved July 30th 2007, from <http://www.iom.int/africandiaspora/pdf/WADDA.pdf>.
- Webb, P. & von Braun, J. (1994). *Famine and Food Security in Ethiopia: Lessons for Africa*. West Sussex, England: John Wiley and Sons.
- World Bank. (2000). *Entering the 21st Century: World Development Report*. New York: Oxford University Press.
- World Bank. (2001). *African Region Human Development Series: Education and Health in Sub-Saharan Africa, a Review of Sector-Wide Approach*. Washington D.C.: The International Bank for Reconstruction and Development.
- World Bank. (2003). *Global Development Finance: Striving for Stability in Development Finance*. Washington D.C.